Solid State Mechanism for Amplifying the Frequency of Near-IR Light Up to Ultraviolet Level via Phase Squeezing

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Introduction

Light generation by LED may be very efficient, but light generation at higher frequencies by LED and particularly by LASER is highly inefficient. This abstract will recommend a method of altering near-IR or red light in a solid-state mechanism in order to convert that light into light of frequencies as high as the ultraviolet without the input of electrical energy.

Abstract

Beginning with polarity-uniformed near-IR or red light, said light may be directed toward an opening in a series of crawlspaces composed of a “ceiling” and a “floor” of thin-film, optically reflective material. The distance between the ceiling and floor of the material would start out as being slightly greater than the phase height of the frequency of light introduced to the crawlspace. It should be noted that the ceiling and the floor must be absolutely smooth.

The crawlspace, although broad in width, would be partitioned at an intervals consistent with the desired ultimate phase height of the light. The partitioning material would be magnetically active and atomically thin, projecting a magnetic “north” toward the interior of the optical channel from either side. As each partition would also need to project a magnetic north toward the interior of the neighboring channels, an anti-ferromagnetic layer would be required between the magnetically active layers of the partition to prevent depolarization of these materials and to prevent the negation of effects.

The distance between ceiling and floor of these crawlspaces would be gradually decreased from one end of the crawlspace to the other so as to maintain a spacing which is constantly slightly less than the phase height of the light. With a magnetic field to constrain the polarity of the light as it travels through the crawlspace, it could be guaranteed that the light would be “squeezed” as intended. Rather than this mechanism attempting to directly amplify frequency using magnetism, the magnetism of the partitioning walls would be used only to constrain polarity and to prevent contact between the light and the walls of the partition (the magnetic partition would necessarily be composed of a light-absorbing material and this would, therefore, not be desirable.) The Coulomb repulsion of the reflective surfaces would be used to reduce the phase height, thereby increasing the frequency indirectly.

It is important to note that we may push the boundaries of what is possible with optical reflective materials by artificially amplifying the negativity of the electrical charge of the electrons as prescribed in 25 October 2025. Just as that method allows for lower-frequency energy to be reflected, it would also allow for light of a higher frequency than is usually possible with optically

reflective materials to be reflected. In any case, simply being able to step up near-IR to ultraviolet would be immensely useful from an efficiency standpoint as current methods for generating UV and higher frequencies are highly inefficient.

The crawlspaces could not be convoluted in the traditional sense in order to reduce the amount of space they occupy within the mechanism due to the requirement that the spatial relationship between floor and ceiling remain constant excepting the taper feature. However, light; after traveling through a length of absolutely level crawlspace; could be made to exit that crawlspace and re-enter another crawlspace stacked atop that first crawlspace after a simple reflection from an outside mirror, after which, it would re-enter that next length of crawlspace sitting above the first and would flow in the opposite direction and repeat this process of entering and exiting layers each of which feature spacings more confined than the previous. This can be visualized by imagining pushing a shopping cart down the aisle of a grocery store and turning about and walking down each aisle, necessarily coming down each subsequent aisle in the opposite direction as the previous. Furthermore, one would have to imagine that the aisles became gradually narrower and that we, ourselves, became narrower as a result of walking through them, ultimately being reduced to less than a quarter of our original height by this process.

The phase squeezing effect of the optical crawlspaces could be maximized by attempting to ensure that reflection events occur near to peaks in phase when the discrete magnetic moment of light is minimized. This would result in a more abrupt deviation in angular momentum due to more proximal passage to the electrons in the reflective material. A specific angle of taper of the ceiling relative to the floor along with a specific starting phase should be leveraged in order to ensure that the phase status at the instant of reflection is consistent throughout the journey of the light through the crawlspace so as to optimize the squeezing effect.

Ultimately, the light emerging from the other end of the crawlspace would emerge as blue, violet, ultraviolet or, perhaps, even extreme ultra-violet energy and could be subsequently focused upon a target using more conventional methods.

Conclusion

LASERs have traditionally been relied upon to generate light of extreme intensities regardless of their inefficiency. Given this new approach, efficiently-generated near-IR LED light could be used as a starting point and converted into the desired EUV light without the expenditure of additional energy in support of, for example, photofabrication. Efficient UV generation may prove useful for other applications including the gravito-thermal conversion mechanism of 26 October 2025, which I postulate will work most efficiently with UV light as the catalyzing agent.

Although the intensities of light possible, at present, with LED are substantially less than what is possible with LASER, the LED light's amplitude can be stepped up using other mechanisms which do not require electrical

power prior to undergoing phase squeezing, for example, the magnetically-optimized photon duplication method involving rubidium from 13 August 2025.

It would be important to perform the amplitude amplification step subsequent to the frequency amplification step as passing light of too great an intensity through the optical crawlspaces could be predicted to introduce heat which would warp the walls of the crawlspaces, effectively destroying the mechanism.